

**PROGRAM CONSULTATION & COORDINATION
BUREAU OF LAND MANAGEMENT
TUCSON FIELD OFFICE**

ENVIRONMENTAL REVIEW

Turbo NEPA #: AZ-420-2005-017

ASSIGNMENT AND REVIEW

Subactivity: 1020

Case/Project No: None

Project Name: Las Cienegas Prescribed Fire

Location: portions of the following townships: T16S-R18E; T17S-R18E; T18S-R18E&R17E; T19S-R's 18,17, and 16E; T20S-R18E&17E; T21S-R18E&17E; T22S-R18E&R17E (See Figure1)

NLCS Unit: Las Cienegas National Conservation Area (LCNCA)

Quad Names: The Narrows, Mescal, Empire Ranch, Spring Water Canyon, Apache Peak, Sonoita, Elgin, Mustang Mtns

Project Lead: Keith Hughes

Draft Review: Unit Manager/Supervisor: _____ Date: _____

Technical Review:

Will Be	Can Be	Attach	NAME	CRITICAL ELEMENTS	SIGNATURE	DATE
Impacted Yes No	Mitigated Yes No	Mitigation? Yes No				
() ()	() ()	() ()	Dan Moore	Air Quality		
() ()	() ()	() ()	Catie Fenn	Areas of Critical Env. Concern		
() ()	() ()	() ()	Max Witkind	Cultural Resources/Paleo		
() ()	() ()	() ()	Bill Auby	Environmental Justice		
() ()	() ()	() ()	Dan Moore	Farm Lands (Prime or Unique)		
() ()	() ()	() ()	Dan Moore	Floodplain		
() ()	() ()	() ()	Max Witkind	Native Am. Religious Concerns		
() ()	() ()	() ()	Jack Whetstone	Threatened or Endangered Species		
() ()	() ()	() ()	Bill Auby	Wastes, Hazardous or Solid		
() ()	() ()	() ()	Dan Moore	Water Quality, Drinking or Ground		
() ()	() ()	() ()	Jack Whetstone	Wetlands/Riparian Zones		
() ()	() ()	() ()	Catie Fenn	Wild and Scenic Rivers		
() ()	() ()	() ()	Catie Fenn	Wilderness		
() ()	() ()	() ()	Jack Whetstone	Invasive & Non Native Weeds		
() ()	() ()	() ()	Bill Auby	National Energy Policy		

Additional Specialists Review:

SPECIALTY	NAME	COMMENTS	SIGNATURE	DATE
Lands/Realty	Susan Bernal			
Minerals/Mining	Bill Auby			
AZ Game & Fish	Joan Scott			
Fisheries	Jeff Simms			
Soils/Water Rights	Dan Moore			
Wildlife/Range	Grant Drennen			
State Land Department	Wally Alexander			

Approval:

Environmental Coordinator: _____ Date: _____

Field Manager: _____ Date: _____

**TUCSON FIELD OFFICE
ENVIRONMENTAL ASSESSMENT**

EA#: AZ-420-2005-017

Project Name: **Las Cienegas Prescribed Fire**

Preparer(s): Hughes

Legal Description and Map Name: portions of the following townships: T16S-R18E; T17S-R18E; T18S-R18E&R17E; T19S-R's 18,17, and 16E; T20S-R18E&17E; T21S-R18E&17E; T22S-R18E&R17E (see Figure 1)

Empire-Cienega (Access Guide) 1:40,000 Map

Is Project Area Flagged? No

INTRODUCTION

Need for the Proposed Action: The primary goal of the burn proposal is to achieve a natural burn regime in the NCA by introducing controlled fire. Natural fires in the area occurred on a 5-10 year basis. Under more a more natural fire regime, undesirable plant species such as mesquite, burroweed and rabbitbrush will be reduced and desirable perennial grass species would be favored. A secondary goal is to reduce the undesirable consequences of uncontrolled wildfires by reducing hazardous fuel loads. Prescribed fire is one of the tools that can be used to achieve the desired plant communities objectives within the LCNCA. If prescribed fire is not used as a tool to help achieve the resource objectives, wildfire risk will increase yearly, management objectives set forth in the resource management plan will not be met, and the condition of various ecological sites within the LCNCA will continue to decline.

Approximately 20,000 acres of grasslands on the LCNCA are invaded by mesquite and other invasive shrub and half shrub species. The Las Cienegas RMP identifies desert grassland as the desired plant community in these areas, thereby requiring the removal or reduction of much of the mesquite, burroweed and other undesirable shrub species. The following text from the LCNCA RMP elaborates generally on the rationale to manage toward desired plant communities and desired future condition:

"Implement an integrated vegetation treatment program. (WS05)

The resource goals and objectives in this plan require maintaining desired plant communities, where they are occurring, and attaining desired vegetation states where existing conditions are not satisfactory. BLM will apply the appropriate integrated vegetation treatments to meet vegetation objectives by directing desired changes in vegetation communities selected by the plan's monitoring and evaluation protocol. Together with the changes to livestock grazing, recreation, and other land uses, the vegetation treatments are designed to meet the resource objectives."

In general, the Las Cienegas RMP states that "the goal of the Empire-Cienega Planning Area prescribed burning program is to simulate [natural fire processes in grassland-savannah ecologic sites] to maintain grassland communities". The proposed burn units occur on three ecologic types: Sandy Loam Upland, Loamy Upland, and Limey Slopes.

The Las Cienegas RMP provides desired resource objectives for upland and riparian habitat, then more specifically provides desired resource objectives for selected wildlife species (pronghorn and grassland sparrows) in upland habitat:

LCNCA RMP Upland Vegetation Objectives

Maintain or achieve properly functioning upland condition and a high similarity index (> 50%, by weight) to the historic climax plant community present on the site on 80% or more of the ecological sites in the Sonoita Valley by the year 2015. (WS01)

LCNCA RMP Grassland Sparrow Habitat Objectives

On loamy bottom ecological sites, provide habitat for breeding grasshopper and wintering Baird's sparrows in the Sonoita basin by maintaining the following (WF02):

- An average of 6-8" grass height.
- Ground cover of live grasses and grass litter >75%.
- Less than 10% shrub canopy on two-thirds of the loamy bottom (swales) range sites that are sampled each year.

LCNCA RMP Pronghorn Habitat Objectives

On open grasslands and in draws in the semi desert grassland and oak savannah vegetation communities (e.g., loamy bottom swales, loamy hills, and limy slopes ecological sites) provide the following habitat components for pronghorn fawning at key monitoring sites (WF03):

- Maintaining vegetation cover 10-18 inches high during the fawning season from the beginning of April through June each year in key fawning areas.
- Maintaining the presence of five or more species of grasses and shrubs in the vegetation communities.
- Limiting trees to no more than 5% of the total cover

Maintain scattered trees greater than 12' tall

LCNCA RMP Deciduous Woody Riparian Vegetation Objectives

- A tree community dominated by Goodding willow on lower banks or in aquatic habitat.
- Trees on upper banks to include yew willow, Fremont cottonwood, velvet ash, and Arizona black walnut.
- A good mix of all age classes of riparian trees.
- Lower banks to be dominated by rushes, sedges, seedling riparian trees, and deer grass with bank cover exceeding 90%.

Upper banks to be dominated by deer grass, sacaton grass, and riparian trees of sapling and adult age classes

Conformance with Land Use Plan: The project conforms with decisions in the following Land Use Plans:

- Eastern Arizona Grazing EIS - 1986
- Phoenix District Resource Management Plan (RMP) – 1988
- Arizona Statewide Wild and Scenic Rivers Legislative Environmental Impact Statement – 1994
- Vegetation Treatment on BLM Lands in Thirteen Western States Final EIS – 1991
- Las Cienegas National Conservation Area (LCNCA), RMP-ROD – 2001
- Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management-2004

Relationship to Statutes, Regulations, or Other Plans:

The LCNCA RMP was developed to preserve, protect, and enhance the multiple-use values of the NCA including the extensive riparian areas along Cienega Creek. Implementation of the LCNCA RMP protects sensitive resources while allowing the continuation of valid activities within the management area.

This project has been scoped through the Sonoita Valley Planning Partnership (SVPP), a collaborative group interested in maintaining proper ecological functions in the Sonoita Valley. The Las Cienegas Community Planner will provide monitoring updates to the SVPP as appropriate. The need for the prescribed fire project has also been identified by the Biological Planning Group. This group reviews LCNCA inventory and monitoring data (including vegetative cover, shrub density, rainfall, wildlife data, and stream flow measurements) and adapts management strategies to reflect resource use and desired future condition.

The proposed prescribed fire treatments follow the guidelines established for prescribed fire, in the Safford/Tucson Fire Management Zone- Fire Management Plan-2004 (pg. 84, Section C.)

The proposed prescribed fire treatments will follow the established guidelines outlined in the DOI, Bureau of Land Management Prescribed Fire Manual 9214.

The proposed prescribed fire treatments follow the guidelines established in the Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Plan-2001 (Goals 1-4), and the 2001 Federal Wildland Fire Management Policy (Ch. 3- Guiding Principles, Policies, and Implementation Actions).

THE PROPOSED ACTION AND ALTERNATIVES

Introduction: From fiscal years 2006-2010, apply prescribed fire on approximately 15,155 total acres within the LCNCA (Figure 1). Prescribed burn planning will be continuous during this period; that is, past burns will be assessed and results monitored so that a 5-7 prescribed burn “rotation” is achieved. Monitoring will enable us to adapt future burns so that they are most ecologically appropriate for the NCA. Table 1 indicates treatment acreage, affected ecological sites, and general timing of proposed burns. Figure 2 indicates current vegetative communities within burn units. Burn unit size may vary due to drought, fuel type, time of year, number of acres burned in previous years, and the level of resource goal achievement.

Grazing rotations and stocking rates may need adjustment as this project is implemented. One year of rest from grazing may be required so that adequate fuels are available to carry fire. After burns are implemented, two years of rest from grazing may be required in burn units so that excessive grass plant mortality and erosion doesn't occur.

Table 1—Las Cienegas National Conservation Area Prescribed Burn Units

Grazing Allotment	Burn Unit Name	Acres	Ecological Sites	Burn Year
Empire	South	4,931	Loamy Hills/Limy Slopes, Loamy Upland/Swales, Limestone Hills/Limy Upland/Volcanic Hills	2010
Empire	Oil	167	Sandy Loam Upland/Loamy Upland, Loamy Upland Swales	2006
Empirita	North	470	Deep Sandy Loam/Sandy Bottom, Volcanic Hills/Limy Slopes, Limy Slopes/Limy Upland, Limy Slopes/Loamy Upland	2008
Empire	Mudspring	1,034	Loamy Bottom-Subirrigated, Limy Slopes/Loamy Upland, Loamy Hills/Limey Slopes, Sandy Loam Upland/Loamy Upland, Sandy Bottom/Swales,	2007
Empire	Maternity	3,075	Loamy Bottom/subirrigated, Sandy Loam Upland/Loamy Upland, Loamy Bottom/Mesquite Bosque, Sandy Bottom/subirrigated, Sandy Bottom/Swales	2007
Empire	Empire	1,449	Sandy Loam Upland/Loamy Upland, Loamy Hills, Loamy Uplands/Swales	2006
Empirita	Crystal	401	Volcanic Hills/Limy Slopes, Limey Slopes/Limy Upland, Limy Slopes/Loamy Upland	2008
Empire	Cinco	3,633	Loamy Bottom/subirrigated, Limy Slopes/Loamy Upland, Limestone Hills/Limy Upland/Volcanic Hills, Sandy Bottom/Swales, Limy Slopes, Sandy Loam Upland/Loamy Upland, Loamy Hills/Limy Slopes, Sandy Loam Upland/Loamy Upland	2009

**(Burn unit boundaries and acres may change due to drought, fuel type, time of year, wildfire acres burned, fuel conditions, resource goals, etc)*

In general, the majority of the proposed burn units are bounded by roads. In the event that any identified resources located within the treatment units need protection from fire, or if the treatment unit configuration needs to be altered to accommodate other management actions, hand-line will be constructed and/or wet-lining will be utilized where applicable.

General Burn Prescriptions:

The preferred burning prescription in sacaton bottoms and mesquite bosques include parameters that promote slow moving, low intensity flame fronts (backing fire and/or short duration head fires to facilitate fire spread), moderate temperatures (50° to 90° F), relative humidity ranging from 10 -55%, and low mid-flame wind speeds (0 - 10 mph). These prescription parameters should result in low intensity burns with minimal to moderate scorch heights; however the presence of sacaton may make scorch height difficult to control. These areas can be burned in the months from October through March .

While riparian areas are not the target of prescribed burning on Las Cienegas, it will be difficult if not impossible to burn the Oil, Mudspring, Maternity, and Cinco units without burning a minimal amount of riparian habitat (hand line construction to exclude fire from riparian would create resource damage that might outweigh the benefit of the proposed burn operations in the units). However, the impacts of fire to these areas can be kept to a minimum through the application of the following prescription: slow moving, low intensity flame fronts developed though short duration head fires (strip fires), relative humidity ranging from 15-45%, temperatures ranging from 50-85 °F, winds none to low (0-10mph).

The preferred prescriptions in the upland grasslands will largely depend on plant densities and age classes of mesquite and shrubs. Higher intensity fires will be attempted in areas with dense, low growing mesquite and shrubs. Low intensity fires will be applied in areas with larger mesquite trees in an attempt to preserve large mesquites while eliminating the smaller mesquite age classes and shrubs.

The proposed action entails that fire be applied on a recurring basis. For example, an upland grassland burn unit can be burned on a cycle of one treatment application every 5 years, as recommended by Robinett (1994). The exact return cycle for prescribed fire will be determined through monitoring, adaptive management strategies, and climate (drought will extend the return interval for prescribed fire). The prescribed fire return interval will depend on each burn units' treatment objectives, which are in turn driven by desired condition of the ecologic types with the burn units. If monitoring indicates that conditions in burn units are significantly different than conditions described in this Environmental Assessment, additional assessment and analysis will occur.

The factors involved with determining a burn unit's burn cycle include the existing vegetation community (sacaton, mesquite, etc.), existing fuel loads, annual rainfall amounts, time of year the burn is scheduled (cool-season or warm-season), regional drought conditions, years since last burn (unplanned ignition or prescribed fire), vegetative reproduction since the last burn, wildlife and endangered species responses, current and past grazing history (including rest) and resource management objectives.

The burn units will be monitored after completing one burn cycle, in order to ensure that resource objectives are being accomplished, and that the prescription parameters are working. Monitoring methods and protocols are defined in the LCRMP (pg. A9-1).

We anticipate the need to use fire in combination with other means of mesquite and brush control (i.e. herbicides and mechanical methods both mechanized and by hand). Monitoring will indicate if additional controls are needed. These alternate control methods are not addressed in this EA, but will be addressed in a subsequent EA if such methods aren't addressed in the BLM Fire, Fuels and Air Quality Management LUP amendment (2004).

Prescribed fire objectives for vegetation communities:

Grassland:

1. Increase cover and density of native perennial grasses such as blue grama, sideoats grama, green sprangletop, plains bristlegrass, bottlebrush squirreltail, sand dropseed, sacaton, giant sacaton, vine mesquite, and tobosagrass.
2. Decrease the annual weed cover and density
3. Reduce canopy cover of shrub and tree species (less than 5% total cover) to benefit pronghorn antelope
4. Reduce fuel loading
5. Provide training for BLM personnel in prescribed fire
6. Improve wildlife habitat for species such as Cassin's sparrow, scaled quail, Botteri's sparrow, giant grassland whiptail lizard, Swainson's hawk, and other animal species that use the grasslands.
7. Maintain a scattered canopy cover of mesquite, hackberry, Mexican elderberry, soapberry, Arizona walnut and other southwestern U.S. desert tree species.
8. Reduce the number of exotic weeds
9. Create a mosaic burn pattern, leaving patches of unburned fuel, and partially burned fuels.

Uplands and Oak Savannah:

1. Reintroduce and increase density of perennial grasses such as blue grama, sideoats grama, tobosagrass, green sprangletop, plains bristlegrass, bottlebrush squirreltail, sacaton, and sand dropseed
2. Decrease annual weed density and cover
3. Decrease the frequency of the shrub species
4. Reduce the fuel loading under larger mesquite
5. Maintain an open canopy of mesquite and other trees greater than 12' tall

6. Improve wildlife habitat for wildlife species such as mule deer, white-tailed deer, Cassin's sparrow, scaled quail, giant grassland whiptail lizard, and Swainson's hawk.
7. Maintain a scattered canopy of mesquite, hackberry, Mexican elderberry, soapberry, Arizona walnut, and other desert tree species (less than 5% of total cover).

Mesquite Bosque:

1. Reduce fuel loading in the under story
2. Reduce the size, intensity, and number of wildfires in the mesquite bosque
3. Promote structural diversity of vegetative growth forms within the mesquite bosques(i.e. a mix of shrubs, trees, and grass)
4. Enhance the canopy cover of larger Mesquite (trees with a >10 DBH)
5. Improve wildlife habitat for species such as mule deer, Abert's towhee, Cooper's hawk, Lucy's warbler, Bell's vireo, Gambel's quail, grey hawk, and white-tail deer.

Riparian:

1. Maintain canopy cover and structural diversity of cottonwood and willow galleries
2. In order to facilitate upland burning, adjust fuel loading in and adjacent to the riparian.
3. Help promote regeneration of cottonwood and willow trees
4. Provide training and research opportunities on the effects of fire in the riparian area
5. Reduce the number, intensity, and size of wildfires in cottonwood and willow galleries
6. Improve wildlife habitat, for species such as the Southwestern Willow Flycatcher, Yellow-billed Cuckoo, Grey Hawk, Yellow Warbler, Summer Tanager, Green Kingfisher, and other obligate species
7. Reduce the cover of non-native grass species, such as Johnson grass and Bermuda grass

Pre-ignition preparations:

Fire breaks will be used on the perimeters of all burn units. The types of control lines used will be determined by the burn units objectives, size and location of the burn unit, fuel types located in each burn unit, any special considerations located in each burn unit (cultural sites, T&E habitat, etc.), and the type of ignition pattern used for each burn unit. Natural barriers will be utilized when possible to limit vegetation and ground disturbances. Unless potential for erosion or other resource damage is expected, constructed control lines will be allowed to revegetate naturally at the conclusion of the prescribed fire. Natural regeneration is often quicker and more effective than artificial attempts to revegetate constructed fire lines. Efforts will be made to design burn units with natural features and/or roads as boundaries to minimize the need for cleared fire lines. Heavy equipment will not be used to construct control lines for prescribed burn units. Vegetation clearance will be kept to a minimum.

Pre-ignition preparations in all habitats will include the clearing of fuels by hand and/or power tools around wooden fence posts, historic sites, structures, railroad trestles, cultural sites, power lines, signs, telephone poles, gas pipeline pumping and/or valve stations, minor maintenance of roads to allow access of vehicles, removal of ladder fuels to prevent fire from entering crowns of trees, and mowing and/or thinning of fuels adjacent to the burn unit.

Pre-ignition preparations in mesquite woodlands and riparian areas will consist of general habitat surveys of each burn unit to identify T&E habitat and will be followed by one or more of the following pre-treatments as appropriate if T&E habitat occurs:

- -clearing of fuels by hand and/or power tools around T&E species habitat (plant and animal)
- -construction of control lines around T&E habitat (within reason)
- -removal of adjacent fuels (brush piles, flood debris, dead and down fuels) to lower the intensity of flame front in riparian areas
- Adherence to all terms and conditions outlined in the Biological Opinion for the LCNCA RMP

More generally, the provisions of the Biological Opinions for the Arizona Land Use Plan Amendment for Fire, Fuels and Air Quality Management (BLM 2004) and the LCNCA RMP will be followed if T&E species or habitat is encountered.

Minor maintenance of administrative roads may include: brushing and or thinning along roads to accommodate emergency equipment, occasional minor maintenance of the road surface around wash outs to maintain a drivable road, and brooming/dragging/grading of road to remove wash boards and ruts. All road maintenance will be approved by the Field Manager prior the being done. When needed, work crews will be accompanied by a resource advisor.

Pre-ignition preparations also include public information and announcements, adjacent land owner notification, cooperating Federal/State/County/Local/Volunteer agencies notification, and rights of way owner notification. Notification lists are identified in the burn plans.

Prescribed fire process:

Specific ignition and burn prescriptions will be prepared for each burn unit. Ignition will depend upon fuel moisture, wind speed/direction, wildlife impacts, fuel loading and type and other seasonable factors involved in the prescribed fire process. Types of ignitions that may be used include, but are not limited to, backing fires, head fires, pile burning, and strip firing. The type of ignition used on each burn unit will be determined based on the resource objectives and fuel types for each particular burn unit. Prescribed burns in the grassland areas will be carried out between October and June. Prescribed burns in the riparian, cienegas, and mesquite bosques will be carried out in the cool season, October and March, with a short duration head fires (strip firing) as the preferred method of ignition. Since flame heights, temperatures, and scorch heights are lower with, short duration head fires (short slow strips) this technique will be employed preferentially in cottonwood/willow forests, mesquite bosques, cienegas, and other areas where objectives involve maintaining canopy cover and structural diversity. Other types of ignition may be employed provided the objectives of the burn plan can be achieved.

Monitoring:

To ensure that the resource objectives are being met on the prescribed fires a monitoring system will be established. This will involve the wildlife biologists, fire ecologist, burn boss, and resource managers reviewing the pre and post burn conditions of the burn units. They will decide if the objectives for the burn unit need to be altered to benefit the vegetation or if the objectives of the burn unit are accomplishing the desired results. This monitoring will help set the frequency of the burn cycle for each unit, ensure proper objectives for each burn unit are addressed, help maintain resource management goals, provide research and data materials for burning in Southwestern Desert grasslands, and ensure that the prescribed fire program can be used in all of the different vegetative sites contained in the LCNCA. Monitoring will show how the mitigating measures used on each burn unit will ensure that there are no adverse impacts to the vegetation communities contained in the LCNCA. The riparian areas and the Mesquite bosques require more detailed monitoring than the other ecological areas found in the LCNCA. Listed below is the proposed monitoring plan for these areas.

Monitoring Plan- Selected burn units will serve as test areas to monitor and evaluate the effects of prescribed fire. Response of vegetative cover and diversity in the burned units will be compared to analogous, unburned exclosure sites on the NCA (some exclosures are present, others will be constructed spring 2005).

In addition, the following monitoring protocols will be implemented:

Preburn:

A. Fuel Inventory:

- Fuel inventories will be conducted on each burn unit
- Photo points will be established at various points around the burn units.

- Fuel loading for ground fuels will be estimated using fuel model guides.
- Fuel loading for standing fuels will be estimated using fuel model guides.
- Canopy cover percentages will be calculated for each burn unit.
- Dead fuel moisture for 1 hr. and 10 hr. fuels will be calculated.

During Burn:

A. Weather:

- Spot weather forecasts will be obtained prior to ignition of test fire to ensure that prescription parameters are being met.
- Wind speed, wind direction, relative humidity, time of day, and temperature readings will be monitored and recorded thru duration of burn.

B. Fire behavior:

- Flame lengths, rate of spread, fire activity, will be monitored and recorded during burn.
- Photos will be used to further document fire behavior activities.

Post Burn:

A. Fuel Inventory:

- Fuel inventories will be conducted on each burn unit
- Photos will be taken at established points around the burn units.
- Canopy cover percentages will be calculated for each burn unit.
- Dead fuel moisture for 1 hr. and 10 hr-fuels will be calculated.

B. Fire Behavior:

- Scorch heights of canopy will be recorded.
- Mortality rates in the Cottonwood, Willow, and Mesquite trees will be recorded.

Post Burn inventories will be conducted 1 year and 2 years post burn to monitor the effects of the prescribed burn. After 2 years the prescribed fire parameters for each unit will be evaluated to see if the results meet management objectives. The monitoring will be conducted by a fire ecologist and or resource specialists.

No Action Alternative: Do not apply fire to the above described area and suppress all other fire in the NCA. This alternative negates the possibility of achieving desired natural communities on large portions of the NCA. This will result in reduced plant and animal abundance and diversity and potentially lead to conditions that promote catastrophic wild fire.

The following impacts are additional potential outcomes of not re-introducing controlled fire to the LCNCA:

- 1)Fuel loading will increase.
- 2)Shrub species will out-compete grass species.
- 3)Fire suppression impedes the natural regeneration process in the riparian, upland, grassland, bosque, and cienegas ecosystems and reduces nutrient cycling.
- 4)Wildfires will be increasingly difficult to control.
- 5)Wildfires will burn large sections of the LCNCA before being brought under control .
- 6) Limited new growth in the cottonwood and willow galleries will occur.
- 7) Loss of large sections of the cottonwood willow galleries due to wildfire.
- 8) Crown kill of mature Mesquites will occur during wildfires, which in turn will increase the cover of shrub mesquite due to basal sprouting.

ENVIRONMENTAL CONSEQUENCES

General Wildlife:

Setting: The high diversity of fish and wildlife species within the Las Cienegas area results from the habitat diversity, including the presence of several rare plant communities. Three native fishes inhabit Cienega Creek and Mattie Canyon. More than 230 bird species have been documented in the planning area, including both resident and migratory species and special status species. A variety of other mammals also inhabit the planning area. Cottontail rabbits are common in shrubby habitats, and black-tailed jackrabbits occur in open habitats. Raccoon and skunks are found most often in riparian areas. Coati mundi inhabit dry canyons and riparian areas. Ringtails are found on rocky hillsides, usually near crevices, caves, mine shafts, and abandoned buildings. Predatory mammals include mountain lion, bobcat, coyote, and grey fox. A reintroduced pronghorn herd, numbering no more than 50, occupies a portion of the area. Mule deer, white-tailed deer and javalina also occur in the area.

Environmental Impacts of the Proposed Action and Alternatives: Various wildlife species occupy the proposed burn units (Table 1). It is expected that a portion of the wildlife occupying the burn units will be unable to escape, and mortality will result. Other individuals will escape, and occupy similar habitats adjacent to the proposed burn units. Animals displaced by fire will survive in adjacent similar habitats. Once vegetation has re-grown in the proposed burn units, various wildlife species will re-colonize the areas. Overall increase in plant diversity is one potential result of the proposed action, and wildlife diversity and abundance may increase as a result.

The proposed burn units are primarily located in upland habitats, therefore sedimentation (a potential result of fire) into perennial portions of the Cienega creek drainage is expected to be minimal. Additionally, burn unit size will be limited and measures to ensure that minimal damage to riparian habitats will be undertaken (primarily the application of strip burns in the limited amount of riparian habitat occurring in the proposed units). Considering these factors, the proposed action will have no long term impacts on the abundance and diversity of general wildlife species.

Threatened and Endangered Species:

Setting: Thirty-seven special status fish, wildlife, and plant species occur or have the potential to occur within the LCNCA. These special status species mainly inhabit the Las Cienegas riparian and grassland habitats. Six of these species (including two candidates for federal listing) have potential to occur in the proposed project area:

General Mitigation: The biological opinions for the LCNCA RMP and the ‘Arizona Statewide Land Use Plan Amendment for Fire, Fuels and Air Quality Management’ provide terms and conditions for the conservation of threatened and endangered species and their habitats. These terms and conditions will be incorporated with burn plans to minimize and eliminate impacts to threatened and endangered species that occur in or near proposed burn units.

Environmental Impacts of the Proposed Action:

Lesser long-nosed bat: Lesser long-nosed bats, a federal endangered species could occur in the project area due to the presence of agave in the uplands. A minimal number of agave plants will

die the result of prescribed fire. Impacts of the proposed action to the lesser long-nosed bat will be minimal as abundant agave resources occur in areas within the LCNCA but outside the proposed burn units. The no action alternative will not impact lesser long-nosed bats.

Jaguar: The most recent recorded sighting of Jaguar on LCNCA is from 1962. The jaguar was located by local ranch hands near the Empire Mountains. However, it is possible that an individual jaguar may occasionally move through the area. The proposed action will create a patch work mosaic of burned, lightly burned, and unburned areas within the SPRNCA. Tree cover within mesquite woodlands and cottonwood willow forests will be maintained. Grass cover in all habitats will be enhanced. This pattern of vegetation types will not affect the potential for movement of the species through the area. Hence the proposed action will not affect the Jaguar. The no action alternative will not impact jaguars.

Gila Chub, Gila Topminnow and Chiricagua Leopard Frog: As noted in the general wildlife section above, sedimentation (a potential result of fire) into Cienega Creek drainage is expected to be minimal; therefore, Gila topminnow, Gila chub and Chiricagua Leopard Frog will not be impacted. The no action alternative will not impact the aquatic species listed in this section.

Southwestern Willow Flycatcher: The Southwestern Willow Flycatcher nests in the area from May through August and the prescribed fires will take place out of the nesting season in the months from November through March. Hence, no mortality of nestlings will occur. Each burn unit will be surveyed prior to ignition, if suitable habitat is found pre-ignition measures will be employed to protect it. These mitigating measures will include one or more of the following;

- clearing of fuels by hand and/or power tools around habitat
- construction of control lines around habitat
- installation of a hose lay to pre-treat or wet down habitat and/or adjacent fuels
- exclusion of habitat from burn unit
- removal of ladder fuels to prevent fire from entering the crowns of willow trees
- removal of adjacent fuels (brush piles, flood debris, dead and down fuels) to lower the intensity of flame front
- removal and/or reduction of ground fuels in habitat area to lessen the intensity of the flame front

Within cottonwood/willow forests and mesquite woodlands, backing fire will be employed to lower flame lengths and burning intensity. These mitigating measures will substantially reduce the negative effects of fire on willow fly catcher within each burn unit.

Once a unit is treated with prescribed fire, dead and down fuel loading will be reduced and a fire break will be created. Should an uncontrolled wildfire start up or down stream from the burn unit the lack of fuel will limit the spread and intensity of the wildfire. Hence the damaging effects of wildfire (loss of cottonwood trees, mortality to nestlings, etc) will be reduced once the prescribed fire treatments are in place.

It is possible that some existing willow trees will be burned during the prescribed fire process. As a result some nesting structure may be lost for about two to three years after the burn. This would be a short-term negative effect on the species. The size of the burn units in the cottonwood willow forests will be small, hence the negative effect will be limited in scope. In addition Goodding willow tends to basal sprout vigorously following fire. By the third or fourth growing season, willow have grown to a height and density which provides suitable nesting habitat. In some cases the willows regrow into a tight thicket providing more suitable habitat than previously existed. Hence the negative effect would be eliminated in the long term. As a result of the mitigating measure the proposed action will likely not adversely affect the Southwestern Willow Flycatcher. The no action alternative will not impact flycatchers.

Yellow-billed Cuckoo: The yellow billed cuckoo is currently proposed for Federal listing. The species nests in the LCNCA from mid June through mid September. The proposed burns will occur from October to March. Mitigating measures, listed above, for protecting southwestern willow fly catcher and its habitat will serve to protect Yellow-billed Cuckoo habitat as well. The Proposed action will not, likely, adversely affect the yellow-billed cuckoo. The no action alternative will not impact cuckoos.

Huachuca Water Umbel, and endangered plant species, is restricted to small areas within the riparian areas. Due to the precautions of the suppression crews, the prescription parameters, and pre and post burn monitoring the proposed action will not have an effect on the Huachuca Water Umbel. Pre-ignition preparations include a survey of the proposed burn unit, if the Huachuca Water Umbel is found the area will be marked of, removal of adjacent fuels, and/or exclude the area from the burn unit. The no action alternative will not impact water umbel.

Environmental Impacts of the No Action Alternative:

The “no action alternative” may impact threatened and endangered species by allowing the potential for catastrophic wildfire to increase. If catastrophic fires occur, much of the important riparian and bosque habitats may be severely burned thereby reducing or eliminating the suitability of these habitats for those T&E species associated with them.

Cultural/Historic Resources:

Setting: The Cienega Valley has been inhabited by humans for approximately 5000 years. Material cultural remains have been found for the Archaic, Ceramic, Protohistoric, and Historic periods of occupation along portions of Cienega Creek and its tributaries. Cienega Creek was a major focus for prehistoric occupation due to the presence of dependable year-round water supply and abundant natural resources, including wildlife, which served to supplement the economic needs of the prehistoric inhabitants.

Environmental Impacts of the Proposed Action and Alternatives: Cultural resources may exist within the proposed burn units. Cultural records surveys will be conducted and significant cultural resources within the units will be identified. cursory field investigations will be conducted to locate other cultural resources. If cultural resources could be adversely impacted by fire, hand lines will be constructed such that the cultural resources are protected from burning operations. Fire crews conducting the burns will be oriented to the cultural resources so that firing and suppression activities won't harm cultural resources to the extent possible.

The no action alternative will have no impacts on cultural resources.

Air Quality:

Setting: The Clean Air Act, which was last amended in 1990, requires EPA to set National Ambient Air Quality Standards for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings (EPA 2002). Secondary standards apply to the Las Cienegas National Conservation Area. The Area meets Secondary standards (USDI, BLM 2002).

Environmental Impacts of the Proposed Action and Alternatives: Under the proposed action, significant smoke and ash will be produced. Burning will be conducted such that local communities and residences will be minimally impacted by burning operations. Each burn plan is approved by Arizona Department of Environmental Quality(ADEQ). Permission to burn is obtained 24 hours in advance to ensure that there will be adequate smoke dispersal and that the particulate matter released won't cause health problems. Air quality will be affected during the duration of the ignition phase of each prescribed burn. The effect is short term usually lasting only 1 to 4 hours. Prescribed burn advisories will be announced to the public prior to ignition. These advisories are to ensure public is informed about prescribed fire and related affects that the prescribed burn will have on the environment and air quality. No impact to human health is anticipated due to the proposed action or the no action alternative.

Farmlands (prime or unique):

Setting: The project area has no prime or unique farmlands.

Environmental Impacts of the Proposed Action and Alternatives: Prime and unique farmlands are not present.

Hazardous or Solid Wastes:

Setting: No hazardous or solid waste sites or issues have been found within the project area USDI, BLM 2002.

Environmental Impacts of the Proposed Action and Alternatives: Hazardous and solid waste are not present in the project area. Mitigation measures described in the preceding section will eliminate the potential for chemical contamination of the environment during project implementation.

Wilderness:

Setting: The project area does not occur within a designated wilderness and is not suitable for wilderness designation (USDI, BLM 2002).

Environmental Impacts of the Proposed Action and Alternatives: Wilderness values will not be impacted by the proposed action and the no action alternative.

Recreation Management:

Setting: The Las Cienegas National Conservation Area provides a wide variety of dispersed recreation including camping, bird watching, nature study, hang gliding, picnicking, horseback riding, hunting and training bird dogs. Areas of concentrated use include Oak Tree Canyon, the abandoned Agricultural Fields, Maternity Well and the abandoned Air Strip. The area has two developed campsites, one near Empire Gulch, the second near the abandoned Agricultural Fields.

Environmental Impacts of the Proposed Action and Alternatives: The proposed action will occur near areas traditionally used for recreation. Opportunities for post fire recreation may be reduced in the short term. Once vegetation re-grows, recreational use is expected to return to normal. Once dense mesquite and shrub growth is removed by fire, many areas not currently used for recreation, may become more desirable for recreational activities.

The no action alternative has no impact on recreational resources.

Riparian:

Setting: The proposed action will necessarily include some riparian habitat (Table 1); however, the treatment of riparian habitat is not the focus of the proposal. Riparian habitat is included in the treatment areas on a limited basis because the exclusion of riparian would require extensive creation of hand-line or dozer line. The detriment of creating hand-line or dozer line would probably eclipse the benefits of the proposed burn proposal.

Environmental Impacts of the Proposed Action and Alternatives: Given the mitigating measures listed below, no negative impacts to riparian will occur under the proposed action and no action alternative.

Environmental Justice:

Setting: The community of Sonoita, AZ is approximately 4 miles southwest of the project site.

Environmental Impacts of the Proposed Action and Alternatives: The proposed action and no action alternative will not disproportionately affect low income or minority communities.

Area of Critical Environmental Concern:

Setting: The LCNCA has been designated an ACEC; however, the RMP indicates that fire will be used as a tool to maintain the ecologic health of the ACEC.

Environmental Impacts of the Proposed Action and Alternatives: The proposed action and no action alternative will influence the LCNCA ACEC; however, the burning will return tree and shrub invaded grasslands to a grassland condition, which is the desired natural condition.

Water Quality:

Setting: The proposed project would occur in Cienega Creek floodplains.

Environmental Impacts of the Proposed Action and Alternatives: As noted in previous sections, the burn units occur in upland settings. As such, sedimentation (one of the potential results of fire) is expected to have minimal impacts on water quality.

Wild and Scenic Rivers:

Setting: The proposed project occurs near portions of Cienega Creek tentatively classified as scenic under the Wild and Scenic Rivers Act.

Environmental Impacts of the Proposed Action and Alternatives: The proposed action and no action alternative will not impact wild and scenic rivers.

Visual Resource Management:

Setting: Most of the Las Cienegas National Conservation Area is VRM class II. The project area will be managed as VRM class II. VRM class II is a landscape that is largely unmodified and scenic.

Environmental Impacts of the Proposed Action and Alternatives: In the short term, the visual quality of the area will be negatively impacted by fire; however, the proposed action is intended to

achieve a desired natural grassland setting. As such, the visual quality of the area will be improved in the long term.

The no action alternative will not affect visual resources.

Native American Religious:

Setting: Native Americans have not formally identified locations of traditional cultural or religious importance in the Las Cienegas National Conservation Area. However, local Tohono O'odam basket weavers harvest bear grass and yucca from the area on an occasional, small scale, sustainable basis.

Environmental Impacts of the Proposed Action and Alternatives: The proposed burns will not remove all beargrass and yucca stands from the NCA; therefore, beargrass and yucca will continue to be available to Tohono O'odam weavers.

Native American cultural and religious locations will not be influenced by the proposed action and no action alternative.

Energy Policy:

Setting: No energy policy issues are present in the proposed project area

Environmental Impacts of the Proposed Action and Alternatives: Energy policy issues will not be influenced by the proposed action and no action alternative.

Residual Impacts: For the proposed action and the no action alternative, no direct, indirect, and cumulative impacts will occur.

MITIGATION MEASURES:

Air Quality:

- A. All prescribed burn plans have to be approved by Arizona Department of Environmental Quality (ADEQ)
- B. 24 hour notice is required prior to approval of any burn plan by ADEQ
- C. Sasem smoke and particulate matter (PM) calculations are a part of every burn plan
- D. PM-10 and PM-2 are both calculated with the Sasem program
- E. Public announcements of proposed prescribed fire date are released
- F. ADEQ will only approve burn permit for a particular day if there is good to excellent transport winds and adequate mixing heights

Cultural:

- A. All proposed prescribed fire burn units will be discussed with an Archeologist
- B. Prescribed burn areas will be inventoried for cultural resources, as required under BLM Instruction Memorandum No. AZ-90-52: Requirements for Cultural Inventory of Prescribed Burn Areas.
- C. Burn plans, pre-ignition work, and ignition patterns can be adjusted to prevent damage to and to protect cultural and historic sites and traditional plant material gathering areas
- D. Minimal or no ground disturbance will be done on or adjacent to cultural and historic sites.
- E. Use of natural and man made barriers (washes, spare fuel, roads, etc) will use implemented as often as possible.

Flood Plain:

- A. Consult with hydrologist about proposed EA .
- B. Not all large diameter fuels in the flood plain area will be consumed with prescribed fire.
- C. Not all flood debris piles will be burned.
- D. Portions of larger fuels will be left to help control erosion.

Hazardous Materials:

- A. Scouting of burn units will take place during planning phase of burn plan.
- B. Power companies will be notified prior to day of scheduled burn.
- C. Gas companies will have gas pipelines checked for leaks, and will be notified prior to day of burn.
- D. Tailgate safety briefings must include a session on Recognize, Retreat, and Reporting of Hazardous Substances
- E. Any hazardous substances encountered during operations must be reported to the TFO HazMat Coordinator.
- G. Fuels will be cleared from around all telephone poles, railroad trestles, power poles, and any other materials that are deemed necessary.
- H.. Coordinate with Hazmat Coordinator if a Hazmat situation arises.

T&E Animal Species:

- A. Consult with wildlife biologist during burn plan preparation.
- B. Conduct prescribed fires, in riparian areas, during the cool season (October through March)
- C. Construction of handline around habitat
- D. Move burn unit boundary if necessary.
- E. Remove ladder fuels to ensure that fire does not enter the crowns of selected large mesquites
- F. Remove and/or reduce ground fuels in habitat area to lessen the intensity of the flame front.
- G. Use different types of ignition patterns to control rates of spread, fire line intensity, and flame lengths, provided the objectives for T&E species can be achieved.

Visual Resources:

- A. Consultation with Recreation planner will be done during preparation of burn EA.
- B. Prescribed fires will be spread out along the LCNCA to minimize visual impacts.
- C. Most of the prescribed fires will take place during the winter and/or spring when visitor use of the LCNCA is lower.
- D. Natural barriers will be utilized as much as possible for control lines. Any ground disturbance will be rehabilitated after prescribed burn is declared out.
- E. Thinning of fuels along boundaries of prescribed fires will be kept to a minimum

Water Quality:

- A. Most burn units will have a period of regrowth before monsoon season.
- B. Prescribed burns will be kept to a manageable size and spread throughout the LCNCA, preventing large areas of possible sediment flow.
- C. Any periods of increased sediment flow into Cienega Creek will be of short duration and will not adversely affect water quality.
- D. Consultation with wildlife biologist during the planning stages of the prescribed burn plan will be made.

Urban Interface:

- A. Ignition will occur only when winds will allow for adequate smoke dispersal..
- B. In areas adjacent to the urban interface, fuel breaks will be established to protect structures and out buildings.
- C. Public notifications will take place prior to ignition of prescribed fires.

- D. Prescribed fire prescription parameters will be designed to minimize the amount of smoke drifting into housing areas, across roads and highways, and across power lines.
- E. Arizona Department of Environmental Quality approval of burn plans will be obtained to ensure that there is adequate transport winds and smoke dispersal. ADEQ monitors the amount of particulate matter released during prescribed fires.

REFERENCES

- Brown, D.E. and C.H. Lowe. 1980. Biotic communities of the southwest. RM-78. Fort Collins, Co. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station.
- McClaran, M.P. and T.R. VanDevender (eds). 1995. The desert grassland. University of Arizona Press, Tucson AZ. 346 pp.
- Robinette, D. 1994. Fire effects on southeastern Arizona plains grasslands. *Rangelands*. 16(4) page 143 - 148.
- USDI, BLM 2000. Visual Resource Management handbook. BLM National Training Center, Course Number 8400-05
- USDI, BLM 2001. Las Cienegas National Conservation Area Resource Management Plan and Final Environmental Impact Statement. USDI, BLM .
- USDI, BLM 2004. Approved Arizona statewide land use plan amendment for fire, fuels, and air quality management and decision record. USDI BLM.
- Wilson, T.B., R.H. Webb, and T.L. Thompson. 2001. Mechanisms of range expansion and removal of mesquite in desert grasslands of the southwestern United States. Gen. Tech. Rep. RMRS-GTR-81. Ogden, UT: USDA, Rocky Mountain Research Station. 23p.
- Wright, H. A. and A. W. Bailey. 1982. Fire ecology: United States and southern Canada. John Wiley and Sons, Inc. 501 pp.

CONSULTATION AND COORDINATION

Persons and Agencies:

Tucson Field Office National Environmental Policy Act team members
Dan Quintana, Gila District Fire Management Specialist
Mark Pater, Gila District Fire Ecologist
Damon McRae, Gila District Fire Management Officer
Mark Fredlake, Wildlife Biologist, San Pedro Riparian National Conservation Area
Las Cienegas Technical Review Team:
Dave Gorey, The Nature Conservancy
Heather Shushman, The Nature Conservancy
Emilio Carillo, NRCS
Wally Alexander, Arizona State Land Department
Grant Drennen, Rangeland Management Specialist, Tucson BLM
Karen Simms, Community Planner, Tucson BLM
Jeff Simms, Fisheries Biologist, Tucson BLM
Patricia Gibson, Archaeologist, Tucson BLM
Las Cienegas Rangeland Review Team:
Mac Donaldson, Empire Ranch LLC
Gerald Korte

FINDING OF NO SIGNIFICANT IMPACT

EA Number: AZ-420-2005-017;
Lease/Serial/Case File No. N/A
BLM Office: Tucson Field Office

prepared: March 2005

Finding of No Significant Impact:

I have reviewed the environmental assessment, AZ-420-2005-017, **Las Cienegas Prescribed Fire** - including the explanation and resolution of any potentially significant environmental impacts. I have determined that the proposed action with the mitigation measures noted in the Decision Record will not have any significant impacts on the human environment and that an EIS is not required. I have determined that the proposed action is in conformance with the Eastern Arizona Grazing EIS - 1986, the Phoenix District Resource Management Plan (RMP) - 1988, and the Las Cienegas national Conservation Area RMP - 2001.

Below are the substantive reasons for finding no significant impact:

- **No Critical NEPA elements will be significantly impacted given the mitigation measures indicated in the Decision Record**

Attachments: EA No. AZ-420-2005- 017

Field Manager

Date

DECISION RECORD

EA Number: AZ-420-2005-017 ; prepared: Feb 2005

Lease/Serial/Case File No. N/A

BLM Office: Tucson Field Office

Decision: It is my decision to select the proposed action which is to burn approximately 15,155 acres on the Las Cienegas National Conservation Area. The burns would occur in 8 burn units over the course of approximately five years. Subsequent lower intensity burns would be conducted to maintain the conditions achieved from the initial burns

Alternatives Considered: The only alternative to the proposed action that was considered in the environmental assessment was the no action alternative. The no action alternative was not selected because no action negates the possibility of achieving desired natural communities on large portions of the NCA.

Rational for Decision: The proposed action is provided for in the Las Cienegas RMP 2001. The environmental assessment analyzed the potential impacts to the environment and the public should the project be implemented. A FONSI has been signed. There are no significant impacts to the environment that would require an environmental impact statement. By selecting the proposed action, the Tucson Field Office is implementing portions of the Las Cienegas NCA Resource Management Plan (RMP) – 2001.

Mitigation Measures:

Air Quality:

- A. All prescribed burn plans have to be approved by Arizona Department of Environmental Quality (ADEQ)
- B. 24 hour notice is required prior to approval of any burn plan by ADEQ
- C. Sasem smoke and particulate matter (PM) calculations are a part of every burn plan
- D. PM-10 and PM-2 are both calculated with the Sasem program
- E. Public announcements of proposed prescribed fire date are released
- F. ADEQ will only approve burn permit for a particular day if there is good to excellent transport winds and adequate mixing heights

Cultural:

- A. All proposed prescribed fire burn units will be discussed with an Archeologist
- B. Prescribed burn areas will be inventoried for cultural resources, as required under BLM Instruction Memorandum No. AZ-90-52: Requirements for Cultural Inventory of Prescribed Burn Areas.
- C. Burn plans, pre-ignition work, and ignition patterns can be adjusted to prevent damage to and to protect cultural and historic sites and traditional plant material gathering areas
- D. Minimal or no ground disturbance will be done on or adjacent to cultural and historic sites.
- E. Use of natural and man made barriers (washes, sparse fuel, roads, etc) will use implemented as often as possible.

Flood Plain:

- A. Consult with hydrologist about proposed EA .
- B. Not all large diameter fuels in the flood plain area will be consumed with prescribed fire.
- C. Not all flood debris piles will be burned.
- D. Portions of larger fuels will be left to help control erosion.
- E. Each burn plan will have hydrologist consultation.

Hazardous Materials:

- A. Scouting of burn units will take place during planning phase of burn plan.
- B. Power companies will be notified prior to day of scheduled burn.
- C. Gas companies will have gas pipelines checked for leaks, and will be notified prior to day of burn.
- D. Tailgate safety briefings must include a session on Recognize, Retreat, and Reporting of Hazardous Substances
- E. Any hazardous substances encountered during operations, including unexploded ordnance, must be reported to the TFO HazMat Coordinator.
- F. Fuels will be cleared from around all telephone poles, railroad trestles, power poles, and any other materials that are deemed necessary.
- G. Coordinate with Hazmat Coordinator if a Hazmat situation arises.

T&E Animal Species:

- A. Consult with wildlife biologist during burn plan preparation.
- B. Conduct prescribed fires during the cool season (November through March)
 - 1. Construction of handline around habitat
 - 2. Wet down habitat prior to ignition.
 - 3. Move burn unit boundary if necessary.
 - 4. Install hose lay and wet down habitat while surrounding area is burned.
 - 5. Remove ladder fuels to ensure that fire does not enter the crowns of selected large mesquites
 - 6. Remove and/or reduce ground fuels in habitat area to lessen the intensity of the flame front.
 - 7. Use a backing fire to lower flame lengths and fire intensities.
 - 8. Use different types of ignition patterns to control rates of spread, fire line intensity, and flame lengths, provided the objectives for T&E species can be achieved.

Visual Resources:

- A. Consultation with Recreation planner will be done during preparation of burn plans.
- B. Prescribed fires will be spread out along the LCNCA to minimize visual impacts.
- C. Most of the prescribed fires will take place during the winter when visitor use of the LCNCA is lower.
- D. Natural barriers will be utilized as much as possible for control lines. Any ground disturbance will be rehabilitated after prescribed burn is declared out.
- E. Thinning of fuels along boundaries of prescribed fires will be kept to a minimum

Water Quality:

- A. Most burn units will have a period of regrowth before monsoon season.
- B. Prescribed burns will be kept to a manageable size and spread throughout the LCNCA, preventing large areas of possible sediment flow.
- C. Any periods of increased sediment flow into Cienega Creek will be of short duration and will not adversely affect water quality.
- D. Consultation with wildlife biologist during the planning stages of the prescribed burn plan will be made.

Urban Interface:

- A. Ignition will occur only when winds will allow for adequate smoke dispersal..
- B. In areas adjacent to the urban interface, fuel breaks will be established to protect structures and out buildings.
- C. Public notifications will take place prior to ignition of prescribed fires.
- D. Prescribed fire prescription parameters will be designed to minimize the amount of smoke drifting into housing areas, across roads and highways, and across power lines.

E. Arizona Department of Environmental Quality approval of burn plans will be obtained to ensure that there is adequate transport winds and smoke dispersal. ADEQ monitors the amount of particulate matter released during prescribed fires.

Terms / Conditions / Stipulations: None

Field Manager

Date

Attachments: Finding of No Significant Impact dated March 2005
Environmental Assessment – AZ-420-2005-017